Super Flower Leadex VII XP 1200W

Serial Number

Lab ID SF12002196

Certification ID 252196

Test Result Report ID: 23PS2196A

Certificate Issue Date: Jun 16, 2023

Scheme: ETA-EMI PSU

115V 230V

Scheme: LAMBDA PSU

115V 230V

Outside Validation Scope

General Information

Test Equipment

Electronic Loads	Chroma 63601-5 x2 Chroma 63600-2 Chroma 63640-80-80 x10 Chroma 63610-80-20
AC Sources	Chroma 6530, APM SP300VAC4000W-P, GW Instek ASR-3500
Power Analyzers	Rohde & Schwarz HMC8015 & NPA701
Oscilloscopes	Picoscope 4444, Siglent SDS2104X PLUS
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Temperature Logger	Picoscope TC-08
Tachometer	UNI-T UT372
Multimeters	Keysight 34465A
EMI Analyzer	TekBox TBMR-110M-EU
Isolation Transformer	4kVA
UPS	FSP Champ Tower 3kVA, CyberPower OLS3000E 3kVA
Testing Methodology	Cybenetics PSU Test Protocol

DUT Information(Non-accredited measurements)

Product Identification Details	
Brand	Super Flower
Model	Leadex VII XP 1200W
OEM/ODM	Super Flower
Serial Number	
Product Specifications	
Manufacturer-Provided Information	
Rated Voltage (Vrms)	100-240
Rated Current (Arms)	15

Rated Frequency (Hz)	60-50
Rated Power (W)	1200
Operating Temperature (Continuous Full Load) (°C)	
Type	ATX12V
Cable Design	Fully Modular
Warranty	-
Cybenetics Measurements	
Dimensions (W x H x D)	
Weight	
Cooling	140mm Fluid Dynamic Bearing Fan (ZFF142512D)
Semi-Passive Operation	✓ (selectable)
Cybenetics Testing Information	
Lab ID	SF12002196
Date of receipt	Jun 9, 2023
Testing Date	Jun 15, 2023
Report Issued Date	Jun 16, 2023
Engineer Name	-
Authorized By the Laboratory Technical Manager	Aristeidis Bitziopoulos
Signature	

Cables and Connectors(Non-accredited measurements)

Modular Cables				
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	16-20AWG	No
4+4 pin EPS12V (700mm)	2	2	18AWG	No
6+2 pin PCIe (700mm)	4	4	16AWG	No
12+2 pin PCIe (700mm) (600W)	1	1	16-24AWG	No
SATA (550mm+130mm+130mm+130mm)	3	12	18AWG	No
4-pin Molex (550mm+150mm+150mm+150mm)	1	4	18AWG	No
AC Power Cord (1370mm) - C13 coupler	1	1	18AWG	-

Power Specifications

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	20	20	99.9	3	0.5
	Watts	100		1198.8	15	6
Total Max. Power (W)		1200				

Test Results

Temperature & Compliance Info

Temperature Range (°C /°F)	28-32 / 82.4-89.6
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓
ALPM (Alternative Low Power Mode) compatible	✓
ATX v3.0 Compliance	✓

Performance Summary

115V

Accredited	
Average Efficiency (>1450 load combinations)	90.556%
Average Noise Output (>1450 Load Combinations)	36.75dBA
Average PF (>1450 Load Combinations)	0.989
Efficiency With 10W (≤500W) or 2% (>500W) Load	72.595%
Standby Power Consumption	0.0634W
Non-Accredited	
12V Ripple (Full Load)	18.32mV
5V Ripple (Full Load)	16.14mV
3.3V Ripple (Full Load)	13.34mV
5VSB Ripple (Full Load)	13.11mV
12V Load Regulation	0.59%

5V Load Regulation	0.20%
3.3V Load Regulation	0.42%
5VSB Load Regulation	2.48%
Inrush Current	35.730A

230V

Accredited		
Average Efficiency (>1450 load combinations)	92.352%	
Average Noise Output (>1450 Load Combinations)	36.52dBA	
Average PF (>1450 Load Combinations)	0.958	
Efficiency With 10W (≤500W) or 2% (>500W) Load	71.027%	
Standby Power Consumption	0.1067W	
Non-Accredited		
12V Ripple (Full Load)	18.84mV	
5V Ripple (Full Load)	16.74mV	
3.3V Ripple (Full Load)	14.43mV	
5VSB Ripple (Full Load)	12.86mV	
12V Load Regulation	0.59%	
5V Load Regulation	0.20%	
3.3V Load Regulation	0.42%	
5VSB Load Regulation	2.48%	
Inrush Current	72.090A	
12V Transient Response (200%)	11.30V	
5V Transient Response (200%)	4.970V	
3.3V Transient Response (200%)	3.141V	
5VSB Transient Response (200%)	5.003V	
Hold-Up Time & PWR_OK Signal	24.10ms	
AC Loss to PWR_OK Hold Up Time	22.60ms	
PWR_OK Inactive to DC Loss Delay	1.50ms	
PSU Timings: T1 (20% / 100%)	84.0ms	85.0ms
PSU Timings: T3 (20% / 100%)	118.0ms	118.0ms
OPP (31.32°C / 40.16°C)	134.25%	128.97%

Hold-Up Time & PWR_OK Signal

Hold-Up Time (ms)	24.1
AC Loss to PWR_OK Hold Up Time (ms)	22.6
PWR_OK Inactive to DC Loss Delay (ms)	1.5

Vampire Power

Tables

115V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	114.85 V	114.78 V	113.85 V	114.89 V	116.15 V	PASS
Mains Frequency:	60.00 Hz	59.98 Hz	59.40 Hz	60.01 Hz	60.60 Hz	PASS
Mains Voltage CF:	1.418	1.417	1.340	1.421	1.490	PASS
Mains Voltage THD:	0.15 %	0.09 %	N/A	0.25 %	2.00 %	PASS
Real Power:	0.063 W	0.044 W	N/A	0.087 W	N/A	N/A
Apparent Power:	9.870 W	9.844 W	N/A	9.905 W	N/A	N/A
Power Factor:	0.005	N/A	N/A	N/A	N/A	N/A

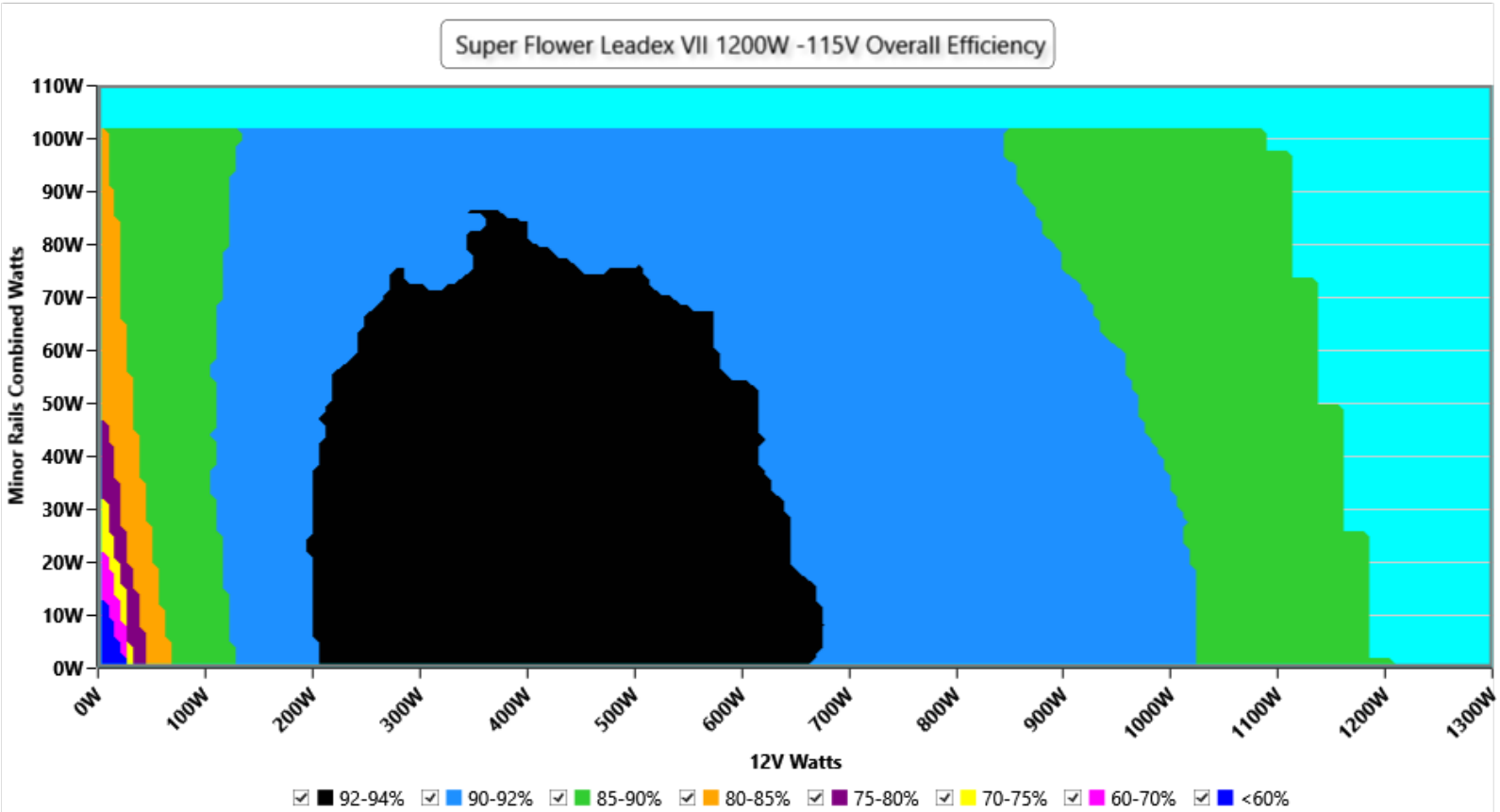
230V

Detailed Results						
	Average	Min	Limit Min	Max	Limit Max	Result
Mains Voltage RMS:	229.85 V	229.80 V	227.70 V	229.93 V	232.30 V	PASS
Mains Frequency:	50.00 Hz	49.99 Hz	49.50 Hz	50.01 Hz	50.50 Hz	PASS
Mains Voltage CF:	1.416	1.415	1.340	1.418	1.490	PASS
Mains Voltage THD:	0.13 %	0.08 %	N/A	0.19 %	2.00 %	PASS
Real Power:	0.107 W	0.068 W	N/A	0.154 W	N/A	N/A
Apparent Power:	33.306 W	33.257 W	N/A	33.356 W	N/A	N/A

Power Factor:	0.002	N/A	N/A	N/A	N/A	N/A

Efficiency Graph

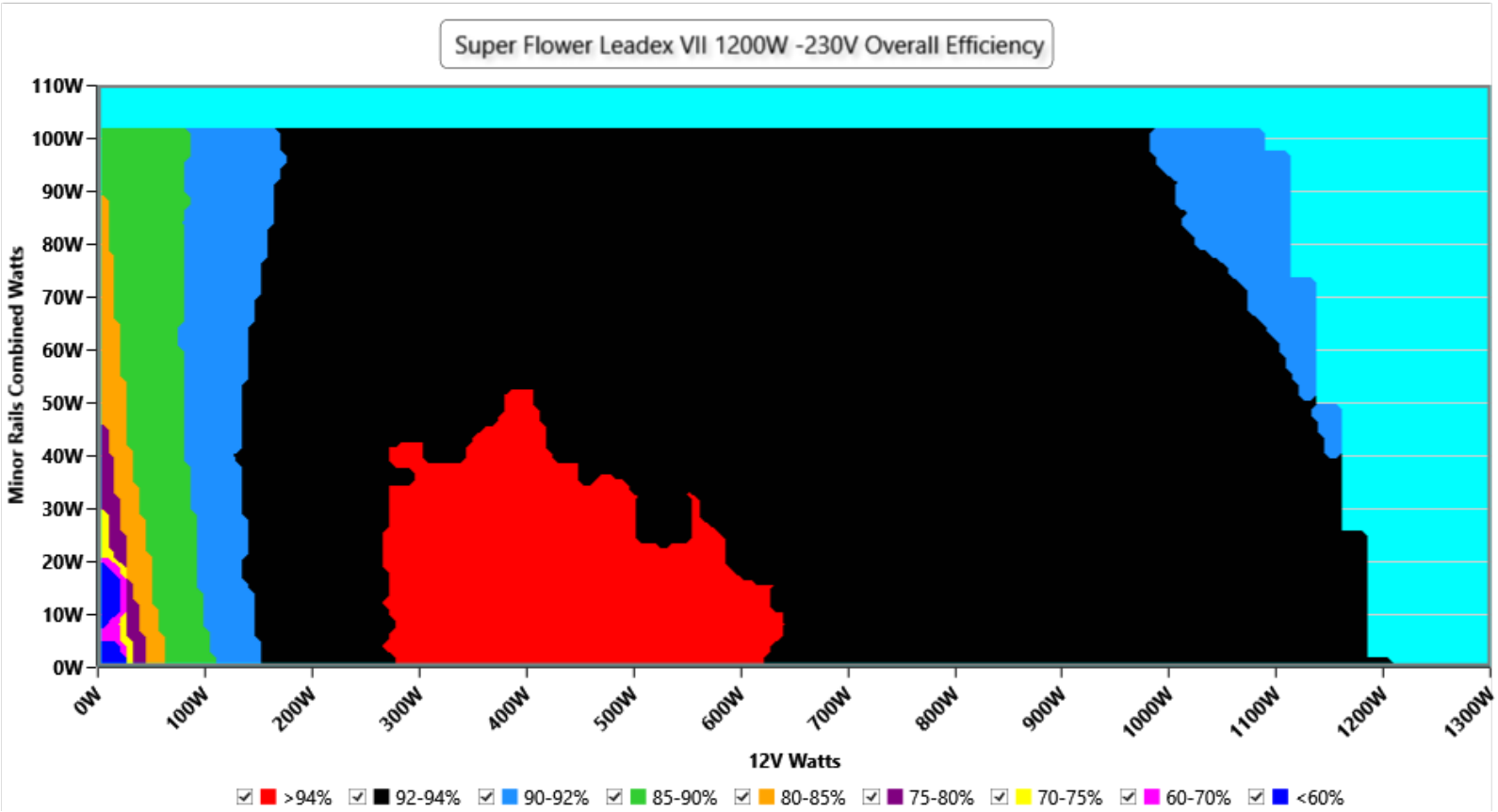
115V



INFO

This graph depicts the PSU`s efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

230V



INFO

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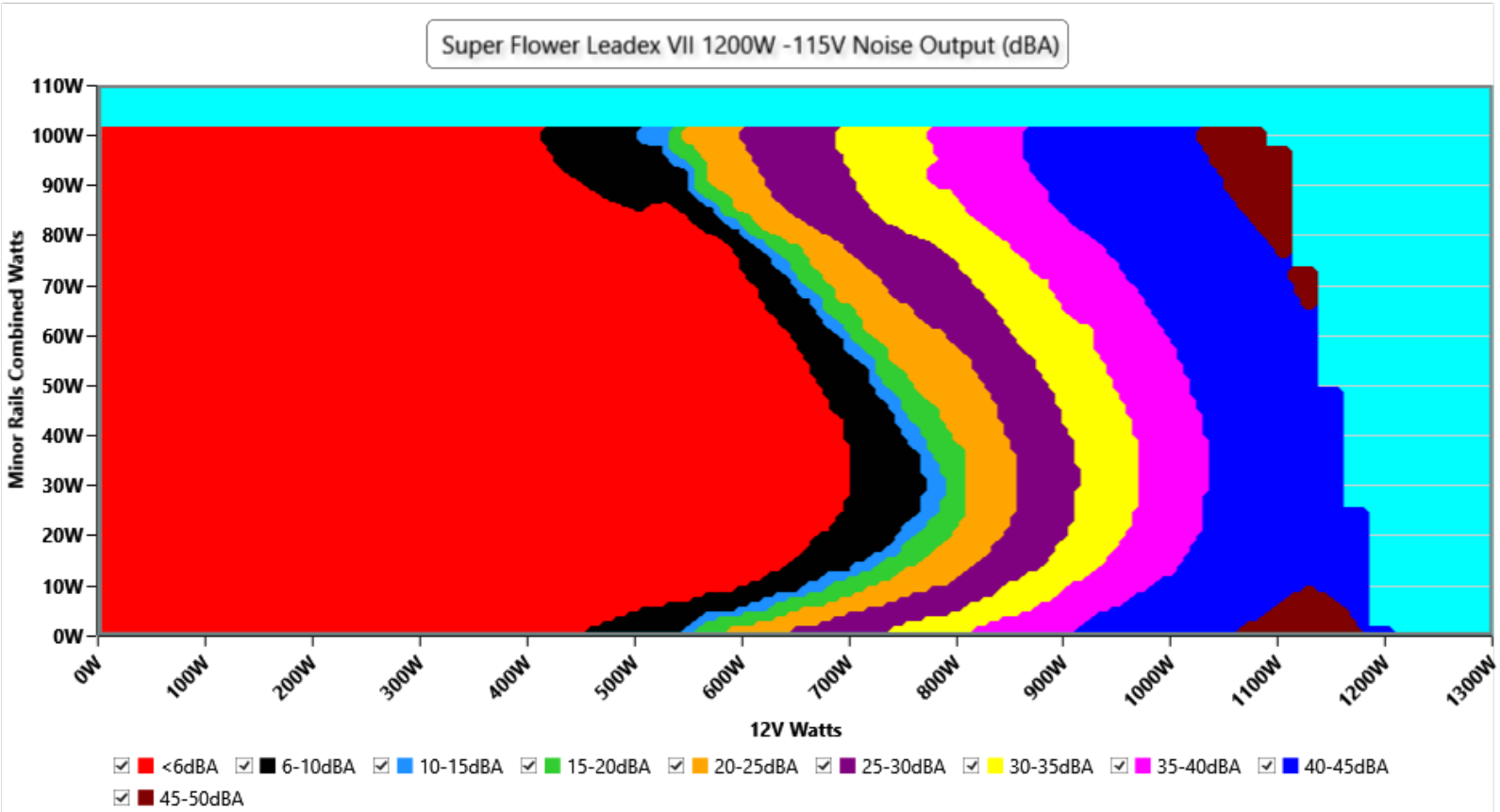
Noise Graph

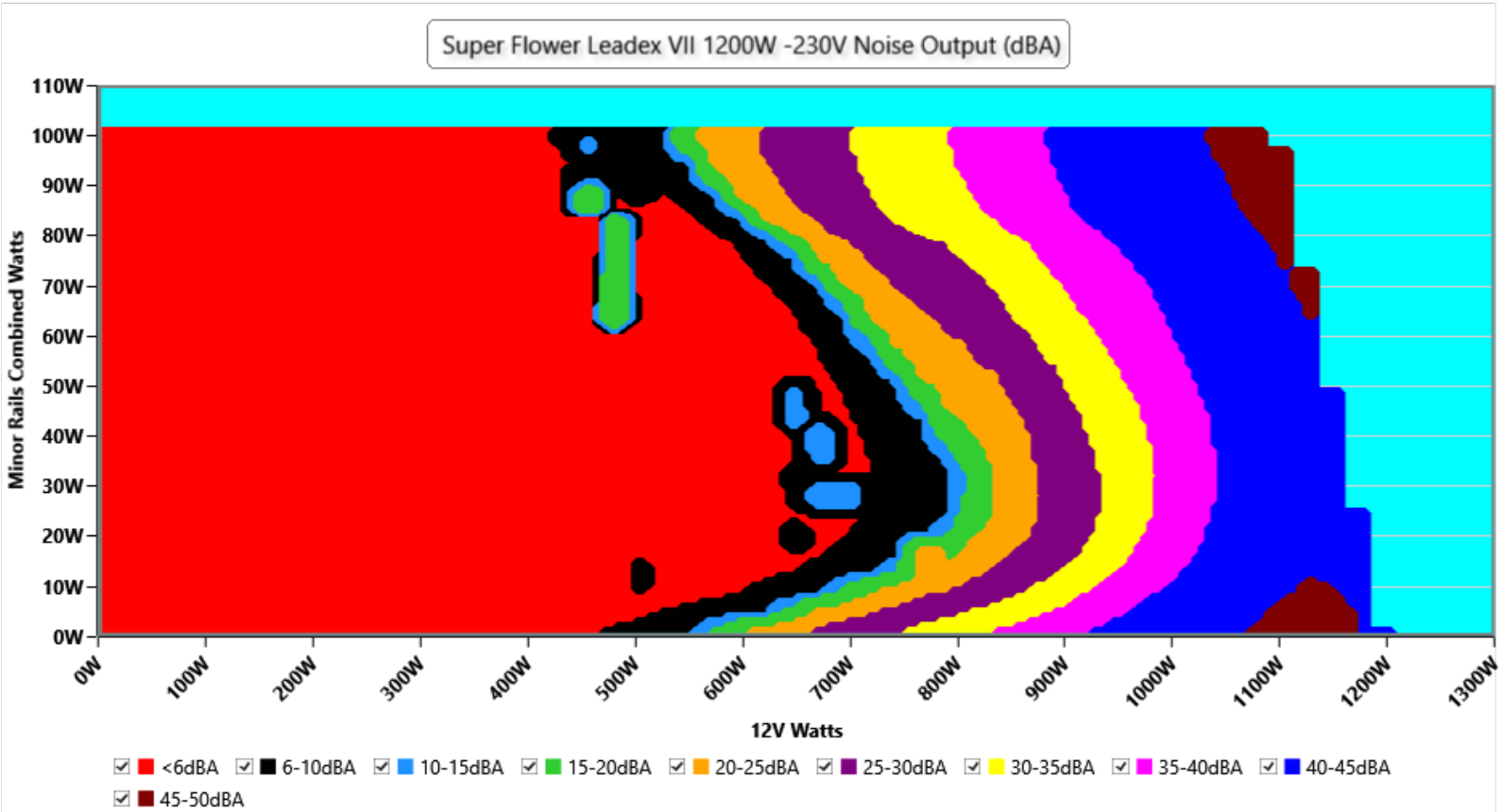
115V



INFO

The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

230V

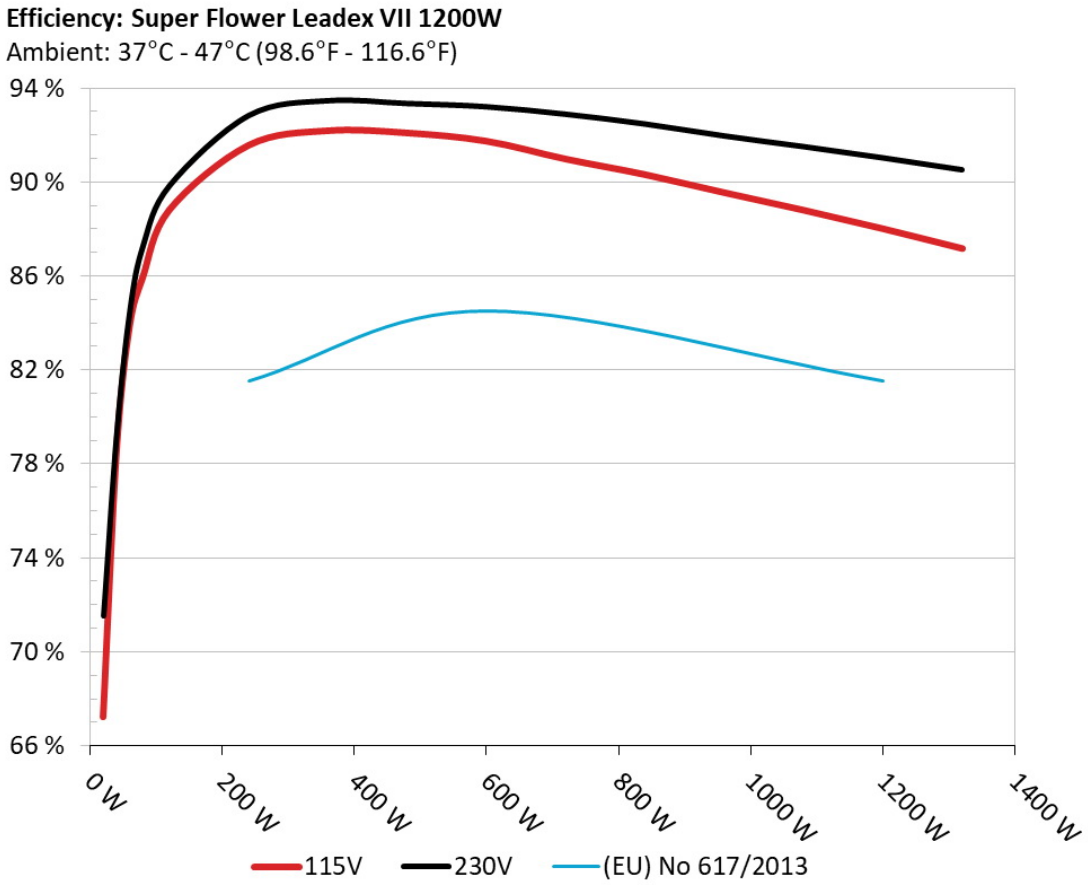


INFO

The PSU`s noise in its entire operational range and under 30-32 °C ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

Indicative Performance

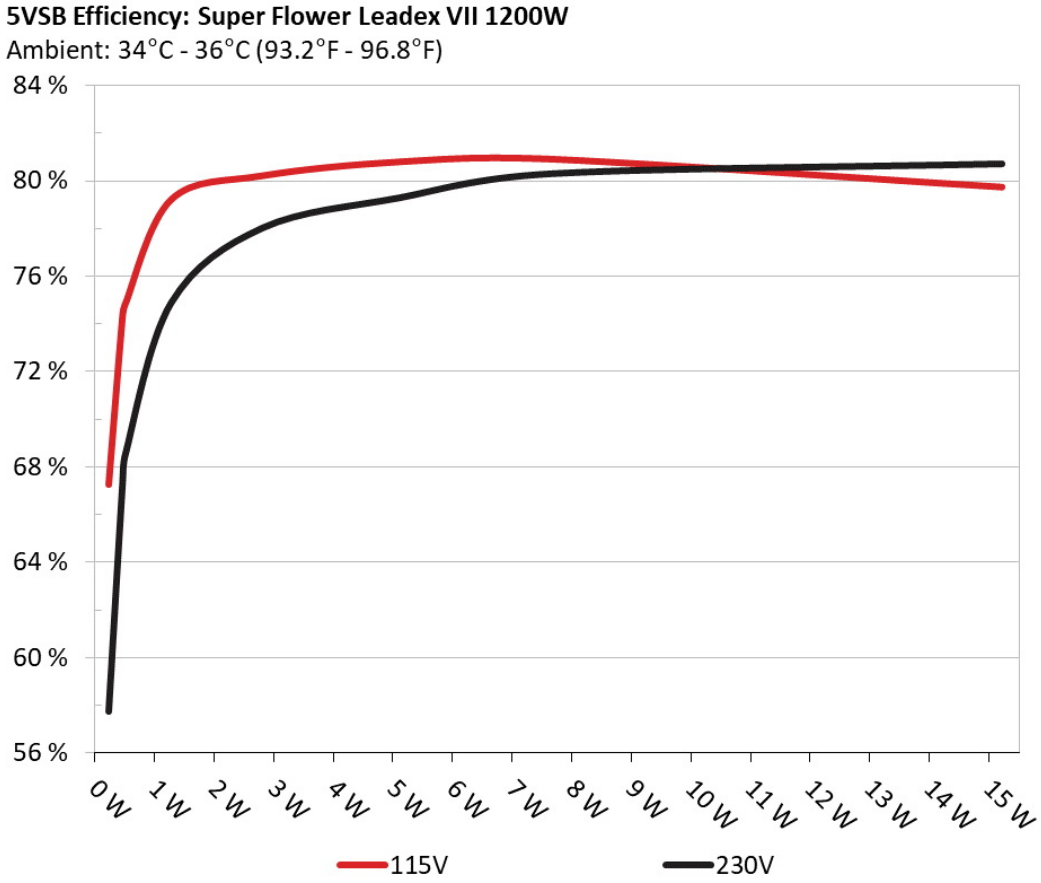
Efficiency under high ambient temperature



INFO

The PSU`s efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB Efficiency



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

5VSB Efficiency (ERP LOT 3/6 & CEC)

115V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	66.768%	0.035
	5.124V	0.346W		114.86V
2	0.09A	0.461W	73.785%	0.063
	5.123V	0.625W		114.85V
3	0.55A	2.813W	79.699%	0.271
	5.115V	3.53W		114.85V
4	1A	5.107W	80.281%	0.362
	5.107V	6.361W		114.85V
5	1.5A	7.647W	80.393%	0.416
	5.098V	9.512W		114.86V
6	3A	15.211W	79.224%	0.483
	5.07V	19.2W		114.85V

230V

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.231W	57.243%	0.012
	5.124V	0.405W		229.85V
2	0.09A	0.461W	66.762%	0.021
	5.123V	0.691W		229.85V
3	0.55A	2.813W	77.539%	0.105
	5.115V	3.627W		229.85V
4	1A	5.107W	78.801%	0.174
	5.107V	6.482W		229.85V
5	1.5A	7.647W	79.811%	0.23
	5.098V	9.582W		229.85V
6	3A	15.212W	80.223%	0.337
	5.071V	18.963W		229.85V

Supplementary Tests (For Reference)

Typical Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.144A	1.98A	1.983A	0.981A	119.98	89.322%	0	<6.0	44.65°C	0.978
	12.081V	5.05V	3.328V	5.098V	134.322				40.43°C	114.8V
20%	17.317A	2.969A	2.976A	1.179A	239.933	92.077%	0	<6.0	45.43°C	0.982
	12.071V	5.051V	3.327V	5.087V	260.58				40.8°C	114.76V
30%	26.784A	3.463A	3.473A	1.379A	359.121	92.7%	0	<6.0	46.53°C	0.99
	12.062V	5.053V	3.325V	5.077V	387.403				41.39°C	114.73V
40%	36.361A	3.956A	3.97A	1.579A	479.502	92.608%	373	<6.0	41.74°C	0.993
	12.054V	5.055V	3.325V	5.066V	517.782				47.25°C	114.68V
50%	45.551A	4.947A	4.965A	1.781A	599.295	92.259%	448	6.6	42.34°C	0.994
	12.048V	5.054V	3.323V	5.055V	649.583				48.31°C	114.65V
60%	54.823A	5.937A	5.961A	1.983A	719.831	91.495%	822	28.9	42.61°C	0.995
	12.039V	5.053V	3.322V	5.044V	786.742				49.28°C	114.6V
70%	64.042A	6.928A	6.959A	2.186A	839.566	90.833%	1109	38.5	43.3°C	0.995
	12.030V	5.052V	3.32V	5.033V	924.306				50.31°C	114.56V
80%	73.331A	7.92A	7.957A	2.289A	959.582	90.062%	1377	44.4	43.81°C	0.995
	12.023V	5.052V	3.318V	5.023V	1065.472				51.83°C	114.52V
90%	82.925A	8.412A	8.443A	2.394A	1079.402	89.319%	1574	48.8	44.48°C	0.996
	12.021V	5.052V	3.316V	5.014V	1208.482				53.56°C	114.47V
100%	92.337A	8.907A	8.961A	3.003A	1199.444	88.528%	1755	49.4	45.36°C	0.996
	12.018V	5.052V	3.314V	4.995V	1354.881				55.38°C	114.42V
110%	101.701A	9.894A	10.05A	3.008A	1320.072	87.68%	1858	51.8	46.96°C	0.996
	12.013V	5.054V	3.313V	4.987V	1505.561				57.88°C	114.37V
CL1	0.116A	11.907A	11.915A	0A	101.309	82.99%	624	19.8	41.4°C	0.98
	12.087V	5.056V	3.332V	5.109V	122.093				46.84°C	114.81V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
CL2	0.115A	19.764A	0A	0A	101.346	82.609%	385	<6.0	40.72°C	0.979
	12.089V	5.057V	3.339V	5.112V	122.681				47.732°C	114.8V
CL3	0.115A	0A	19.83A	0A	67.388	76.325%	653	21.5	40.27°C	0.958
	12.087V	5.064V	3.328V	5.109V	88.297				49.34°C	114.82V
CL4	99.861A	0A	0A	0A	1200.002	89.223%	1579	48.8	45.51°C	0.996
	12.017V	5.05V	3.316V	5.058V	1344.967				56.44°C	114.43V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
10%	8.144A	1.98A	1.983A	0.981A	119.984	90.349%	0	<6.0	44.29°C	0.868
	12.081V	5.049V	3.328V	5.098V	132.808				40.04°C	229.83V
20%	17.316A	2.97A	2.976A	1.18A	239.936	93.332%	0	<6.0	45.52°C	0.943
	12.072V	5.05V	3.326V	5.087V	257.078				40.91°C	229.81V
30%	26.781A	3.464A	3.473A	1.379A	359.126	93.961%	0	<6.0	46.21°C	0.966
	12.063V	5.052V	3.325V	5.076V	382.217				41.05°C	229.78V
40%	36.355A	3.957A	3.97A	1.579A	479.501	93.844%	371	<6.0	41.55°C	0.978
	12.056V	5.054V	3.325V	5.065V	510.949				47.26°C	229.77V
50%	45.546A	4.948A	4.966A	1.781A	599.29	93.706%	461	8.0	42.18°C	0.98
	12.049V	5.053V	3.323V	5.055V	639.54				48.36°C	229.75V
60%	54.819A	5.938A	5.962A	1.983A	719.825	93.385%	815	28.7	42.71°C	0.981
	12.040V	5.052V	3.321V	5.043V	770.817				49.25°C	229.73V
70%	64.038A	6.929A	6.96A	2.186A	839.556	92.971%	1111	38.5	43.24°C	0.982
	12.031V	5.052V	3.319V	5.032V	903.028				50.25°C	229.71V
80%	73.333A	7.92A	7.958A	2.29A	959.576	92.462%	1381	44.5	43.53°C	0.983
	12.023V	5.051V	3.317V	5.023V	1037.803				51.59°C	229.69V
90%	82.928A	8.414A	8.445A	2.394A	1079.395	92.008%	1574	48.8	44.07°C	0.985
	12.021V	5.051V	3.316V	5.014V	1173.15				53.13°C	229.67V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
100%	92.336A	8.908A	8.962A	3.003A	1199.428	91.53%	1749	49.3	45.34°C	0.986
	12.018V	5.051V	3.314V	4.995V	1310.421				55.37°C	229.65V
110%	101.694A	9.897A	10.053A	3.008A	1320.063	91.019%	1851	51.9	46.86°C	0.987
	12.014V	5.052V	3.312V	4.987V	1450.311				57.79°C	229.63V
CL1	0.116A	11.91A	11.918A	0A	101.307	84.054%	497	12.2	40.03°C	0.85
	12.088V	5.055V	3.331V	5.109V	120.541				45.52°C	229.83V
CL2	0.115A	19.768A	0A	0A	101.347	83.504%	385	<6.0	39.97°C	0.851
	12.090V	5.056V	3.338V	5.112V	121.368				47.04°C	229.83V
CL3	0.114A	0A	19.832A	0A	67.386	77.628%	637	20.6	40.06°C	0.788
	12.088V	5.063V	3.328V	5.109V	86.804				49.13°C	229.84V
CL4	99.865A	0A	0A	0A	1200.006	92.135%	1615	48.5	45.04°C	0.986
	12.016V	5.05V	3.315V	5.058V	1302.452				56.02°C	229.65V

The results above are not used in the certification process

Light Load Tests

115V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.228A	0.495A	0.496A	0.195A	19.994	67.73%	0	<6.0	39.57°C	0.821
	12.089V	5.045V	3.328V	5.119V	29.521				36.51°C	114.84V
40W	2.704A	0.693A	0.694A	0.293A	39.994	78.964%	0	<6.0	40.86°C	0.909
	12.087V	5.047V	3.328V	5.116V	50.651				37.58°C	114.84V
60W	4.180A	0.891A	0.892A	0.391A	59.994	84.406%	0	<6.0	42.14°C	0.946
	12.085V	5.048V	3.328V	5.113V	71.075				38.42°C	114.82V
80W	5.652A	1.089A	1.09A	0.489A	79.932	86.46%	0	<6.0	43.8°C	0.961
	12.083V	5.049V	3.328V	5.11V	92.45				39.82°C	114.82V

The results above are not used in the certification process

230V

Test	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
20W	1.228A	0.496A	0.496A	0.195A	19.995	72.015%	0	<6.0	39.94°C	0.485
	12.090V	5.044V	3.328V	5.119V	28.837				36.87°C	229.85V
40W	2.704A	0.694A	0.694A	0.293A	39.995	79.808%	0	<6.0	41.12°C	0.649
	12.087V	5.045V	3.328V	5.116V	50.115				37.88°C	229.85V
60W	4.180A	0.891A	0.892A	0.391A	59.994	85.041%	0	<6.0	41.99°C	0.737
	12.086V	5.046V	3.328V	5.113V	70.554				38.56°C	229.84V
80W	5.652A	1.089A	1.091A	0.489A	79.933	87.801%	0	<6.0	42.63°C	0.797
	12.084V	5.047V	3.328V	5.11V	91.038				38.78°C	229.83V

The results above are not used in the certification process

Ripple Measurements

115V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	8.74mV	9.29mV	9.70mV	7.18mV	Pass
20% Load	9.05mV	9.03mV	9.70mV	7.28mV	Pass
30% Load	10.49mV	9.85mV	10.10mV	7.49mV	Pass
40% Load	11.46mV	9.39mV	10.11mV	8.21mV	Pass
50% Load	15.34mV	10.01mV	10.93mV	7.70mV	Pass
60% Load	13.66mV	10.21mV	11.13mV	8.26mV	Pass
70% Load	12.89mV	11.29mV	10.93mV	9.44mV	Pass
80% Load	13.14mV	12.16mV	11.70mV	9.65mV	Pass
90% Load	14.06mV	13.65mV	12.11mV	10.36mV	Pass
100% Load	18.32mV	16.14mV	13.34mV	13.11mV	Pass
110% Load	18.71mV	18.42mV	15.24mV	13.25mV	Pass
Crossload1	11.14mV	11.81mV	12.99mV	22.63mV	Pass
Crossload2	9.46mV	15.09mV	10.88mV	21.81mV	Pass

Test	12V	5V	3.3V	5VSB	Pass/Fail
Crossload3	8.49mV	11.34mV	13.34mV	20.06mV	Pass
Crossload4	17.76mV	15.58mV	11.94mV	22.16mV	Pass

The results above are not used in the certification process

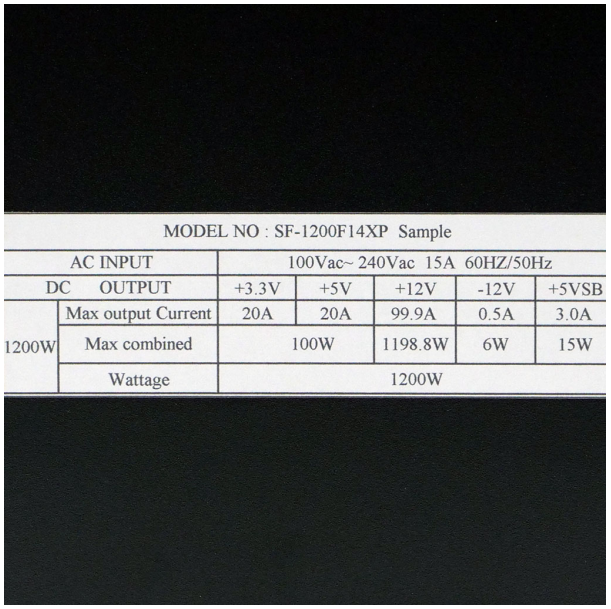
230V

Test	12V	5V	3.3V	5VSB	Pass/Fail
10% Load	9.67mV	8.88mV	9.54mV	7.49mV	Pass
20% Load	9.72mV	8.93mV	10.16mV	8.31mV	Pass
30% Load	11.25mV	9.80mV	10.16mV	7.64mV	Pass
40% Load	12.43mV	10.27mV	10.98mV	7.90mV	Pass
50% Load	12.07mV	10.42mV	10.26mV	8.26mV	Pass
60% Load	12.94mV	10.78mV	10.62mV	8.47mV	Pass
70% Load	13.55mV	11.55mV	11.34mV	8.47mV	Pass
80% Load	13.76mV	12.27mV	12.16mV	9.24mV	Pass
90% Load	14.32mV	14.32mV	11.69mV	10.36mV	Pass
100% Load	18.84mV	16.74mV	14.43mV	12.86mV	Pass
110% Load	18.83mV	19.84mV	14.75mV	13.34mV	Pass
Crossload1	11.60mV	12.24mV	12.94mV	22.62mV	Pass
Crossload2	9.92mV	15.45mV	11.19mV	21.04mV	Pass
Crossload3	8.23mV	11.29mV	13.70mV	19.29mV	Pass
Crossload4	18.30mV	16.55mV	13.03mV	22.96mV	Pass

The results above are not used in the certification process

Super Flower Leadex VII XP 1200W

Top side



MODEL NO : SF-1200F14XP Sample

AC INPUT		100Vac~ 240Vac 15A 60HZ/50Hz				
DC OUTPUT		+3.3V	+5V	+12V	-12V	+5VSB
1200W	Max output Current	20A	20A	99.9A	0.5A	3.0A
	Max combined	100W		1198.8W	6W	15W
	Wattage	1200W				

Power specifications label

All data and graphs included in this test report can be used by any individual on the following conditions:
› It should be mentioned that the test results are provided by Cybenetics
› The link to the original test results document should be provided in any case

Cybenetics runs voluntary certification programs for power supplies - ETA for efficiency, LAMBDA for noise and SAFE for safety and correct operation - and for cooling products, with DELTA for chassis soundproofing and PHI for fan airflow and static pressure. THETA rates cooler performance on AMD AM5 and Intel LGA1851 outside ISO 17065 and accreditation scope

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